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10/730,288

12/09/2003

Jin-oh Yang

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06/14/2005

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EXAMINER

DINH, JACK

ART UNIT

PAPER NUMBER

2873

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/730,288 | Applicant(s) YANG, JIN-OH | |
| | Examiner Jack Dinh | Art Unit 2873 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>DETAILED ACTION</u> . |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 20-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 20, it is unclear whether the index matching layer is formed on the surface of the first lens that contacts with the adhesive layer or on the opposite surface. Therefore, it is unclear of the configuration being claimed. The rejections below will be based on the broadest interpretation.

Regarding claim 22, it is unclear of the specific degree of refractive index needed to minimize reflection in the junction lens device.

Claims 21, 23 and 24 are rejected based upon the rejected base claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's submitted prior art in view of Deguchi et al. (US Patent 4,609,267).

Regarding claims 1, 6 and 13, the Applicant's admitted prior art is interpreted as disclosing a camera including a zoom lens optical system including a junction lens device made by joining a high refractive lens and a low refractive lens using an adhesive (paragraphs 0003 & 0004). The Applicant's admitted prior art discloses all the claimed limitations except for a coating layer formed between the adhesive and one of the lens surfaces to reduce a reflection ratio on the junction surface. Within the same field of endeavor, Deguchi is interpreted as disclosing the teaching of an antireflection or coating layer disposed between two layers of different refractive indices (col. 2, lines 40-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the coating layer, as taught by Deguchi, for the purpose of minimizing glares at the junction surface.

Regarding claims 4, 10 and 17, the Applicant's admitted prior art is interpreted as disclosing zoom lens optical system including a junction lens device made by joining a high refractive lens and a low refractive lens using an adhesive (paragraphs 0003 & 0004). The Applicant's admitted prior art discloses all the claimed limitations except for a coating layer formed between the adhesive and one of the lens surfaces to reduce a reflection ratio on the junction surface so the reflection ratio is not more than about 0.2%. Within the same field of

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endeavor, Deguchi is interpreted as disclosing the teaching of an antireflection or coating layer disposed between two layers of different refractive indices (col. 2, lines 40-50). In addition, such range of reflection ratio would have been within the knowledge of one of ordinary skill in the art given the teaching of Deguchi, and can be found through experimentation. It is considered not inventive to discover the optimum range by routine experimentation. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the coating layer and such reflection ratio range, as taught by Deguchi, for the purpose of minimizing glares at the junction surface and selecting a preferred optimum range for the reflective ratio.

Regarding claims 2, 7, 14, the Applicant's admitted prior art in view of Deguchi is interpreted as disclosing all the claimed limitations, as described above, except that the reflection ratio is not more than about 0.2%. However, such range of reflection ratio would have been within the knowledge of one of ordinary skill in the art given the teaching of Deguchi, and can be found through experimentation. It is considered not inventive to discover the optimum range by routine experimentation. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide such reflection ratio range for the purpose of selecting a preferred optimum range for the reflective ratio.

Regarding claims 3, 5, 8, 11, 15, 18, the Applicant's admitted prior art in view of Deguchi is interpreted as disclosing all the claimed limitations, as described above, except that difference in refractive index between the two lenses is not less than about 0.15. However, such

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range would have been well within the knowledge of one of ordinary skill in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide such range for the purpose of selecting a preferred refractive index for each lens.

Regarding claims 9, 12, 16 and 19, the Applicant's admitted prior art is interpreted as further disclosing that the junction lens device is used as a front lens of a zoom lens optical system (paragraph 0005).

Regarding claim 20, the Applicant's admitted prior art is interpreted as disclosing a method of manufacturing a junction lens device comprising the steps of forming a first lens having a first refractive index, joining the first lens to a second lens having a second refractive index with an adhesive. The Applicant's admitted prior art discloses all the claimed limitations except for an index matching layer formed on the first lens, and that the adhesive has a refractive index closer to a refractive index of the second lens than the first lens, and the index matching layer has an index of refraction between the index of refraction of the first lens and the index of refraction of the adhesive. Within the same field of endeavor, Deguchi is interpreted as disclosing the teaching of an antireflection or coating layer disposed between two layers of different refractive indices (col. 2, lines 40-50). In addition, it would have been obvious to one skilled in the art to provide the layers in between the lenses so that the combination of the lenses and the layers are in either an ascending or descending order of refractive index to further reduce the refractive index difference between the two lens that causes the undesirable glares. On the other hand, with only two layers in between the lenses, there would only be a handful of choices

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and combinations of refractive indices available. With this being said, one skilled in the art could easily discover the optimum combination through experimentation. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the coating layer, as taught by Deguchi, for the purpose of minimizing glares at the junction surface and to provide the adhesive that has a refractive index closer to a refractive index of the second lens than the first lens, and the index matching layer that has an index of refraction between the index of refraction of the first lens and the index of refraction of the adhesive, for the purpose of further reducing the refractive index difference between the two lens that causes the undesirable glares.

Regarding claim 21, the Applicant's admitted prior art in view of Deguchi is interpreted as disclosing all the claimed limitations, as described above, except that adhesive has a refractive index substantially similar to the refractive index of the second lens. However, since the adhesive layer has the basic function of bonding the two lenses, it would have been obvious at the most basic level of understanding to have the refractive index of the adhesive to be substantially similar to the refractive index of either of the lens. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the adhesive with a refractive index substantially similar to the refractive index of the second lens, for the simple purpose of bonding the two lenses without changing the refractive index difference between the lenses.

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Regarding claim 24, the junction device would be inherent from the manufacturing method described in claim 20.

Response to Arguments

3. Applicant's arguments filed 03/21/05 have been fully considered but they are not persuasive.

Regarding claims 1, 6 and 13, the Applicant argued that the antireflective coating must be formed on the correct one of the two joined lenses in order to minimize reflectance at the lens interface. In contrast, the claimed language states that “the coating layer for index matching is formed on a surface of at least one of the high refractive lens and the low refractive lens”. Since the Applicant argues something different from what is being claimed, this argument will be moot.

Regarding claims 4, 10 and 17, the Applicant only claims the range of a reflection ratio, not how it being achieved. All ranges are theoretically known by one skilled in the art.

Regarding claims 2, 7 and 14, the Applicant does not provide further argument other than that from the claim it depends from.

Regarding claims 3, 5, 8, 9, 11, 12, 15, 16, 18, 19, the Applicant does not provide further argument other than that from the claim it depends from.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Dinh whose telephone number is 571-272-2327. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jack Dinh


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